

MT. BAKER HIGHWAY SCENIC BYWAY MANAGEMENT PLAN

INTEGRATED VEGETATIVE MANAGEMENT PLAN

1. Integrated Vegetative Management
2. Landscape Management Approach
3. Roadside Vegetative Management
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Integrated vegetative management plan

The primary objective in maintenance of roadside vegetation is to promote the safety of the highway user, preservation of the highway infrastructure and control of legally designated noxious weeds where they occur on the right of way. Other considerations include protection and preservation of natural environment, preserving and enhancing the natural scenic quality of the roadside and being a good steward of the forest along this corridor. In all cases, roadside vegetation maintenance activities are planned and conducted in a way that discourages or eliminates unwanted vegetation and promotes desirable vegetation.

Integrated vegetation management is a coordinated decision-making and action process that uses the most appropriate vegetation management methods and strategy, along with monitoring and evaluation system, to achieve roadside maintenance program goals and objectives in an environmentally and economically sound manner.

The process consists of the following principle components:

- Prevention
- Monitoring
- Determining action thresholds
- Proper timing of maintenance efforts
- Selection of least disruptive control and effective revegetation tactics
- Evaluation

The integrated vegetative management process provides information for the total roadside management system, which is used to analyze vegetation problems and implement long-term solutions. This broad overview approach helps vegetation managers answer four key questions:

- If treatment action is needed
- Where treatment activity should take place in the system
- When action should take place
- Which mix of strategies, tactics and treatments are the best to use

Integrated vegetation management (IVM)

What is roadside vegetation management?

Roadside vegetation management involves caring for and/or controlling plants along the highway. If managed properly, roadside vegetation can become self-sustaining over time and require less maintenance. This helps reduce costs and minimizes herbicide use.

Why is roadside vegetation management important?

Safety is the highest priority at WSDOT. Vegetation, if left alone, can grow out of control and block visibility (signs, traffic, wildlife) which could endanger motorists. Weeds must be controlled to avoid impacts on the farming community and native



ecosystems. Pride of ownership and the beauty of Washington State are also important factors, both aesthetically and economically, such as with the tourism industry.

What is a roadside vegetation management plan?

Roadside vegetation management plan is a "how to" guide for the best way to manage roadsides in any given area. Washington State has diverse climates and the highways have many neighbors, so the plans vary depending on location. The plans determine the right tool or combination of tools, for the right plant at the right place and time. WSDOT often uses the term Integrated Vegetation Management (IVM) in reference to this process. Vegetation management tools include:

- Mowing and trimming
- Selectively using herbicides
- Releasing of weed-eating insects
- Improving soils
- Planting native plants
- Hand pulling by volunteers and contracted services USFS

Using IVM and roadside vegetation management plans help reduce herbicide use and maintenance costs. When undertaking vegetative management, WSDOT follows the NW Region, Area 1, Integrated Roadside Vegetative Management Plan, adopted in December of 2006 and as amended. This document can be found at <http://www.wsdot.wa.gov/maintenance/pdf/BellinghamPlan.pdf>

This plan was developed with the specific needs of this region in mind and is updated to reflect improved technology and guidance. WSDOT will utilize this document when undertaking vegetative management along this corridor and discuss alterations to this management plan with the USFS at the annual meeting.

Consultation with NW Region Principal Landscape Architect

Capital projects along the scenic byway will undergo review by a qualified Landscape Architect for scenic quality, roadside function and maintainability issues.

Landscape management approach

The USFS and WSDOT will be jointly responsible for promoting and protecting scenic and other distinctive features while providing safe access along SR 542. We have approached the complex art and science of determining the relative value and importance of the scenery of this unique eco-system with a straightforward and systematic process that can be implemented along this corridor. Our intent is to establish direction for the management of positive natural attributes of the landscape as they exist along the highways corridor. Uniform procedures will be agreed upon that will describe the actions necessary to preserve the safety of the roadways while also establishing acceptable measures for maintaining the scenic integrity.

The landscape in this area has developed over time. When SR 542 was constructed, human-caused disturbance in the landscape occurred. We have taken steps to maintain

natural settings and scenic quality along the roadway. The following considerations guide management of the landscape:

- Perpetuate an appropriate landscape character that fits within the context of the overall corridor and surrounding areas.
- Identify strategies for landscape management that will promote safe corridors and an aesthetically pleasing visual experience.
- Define approach for noxious weed prevention.

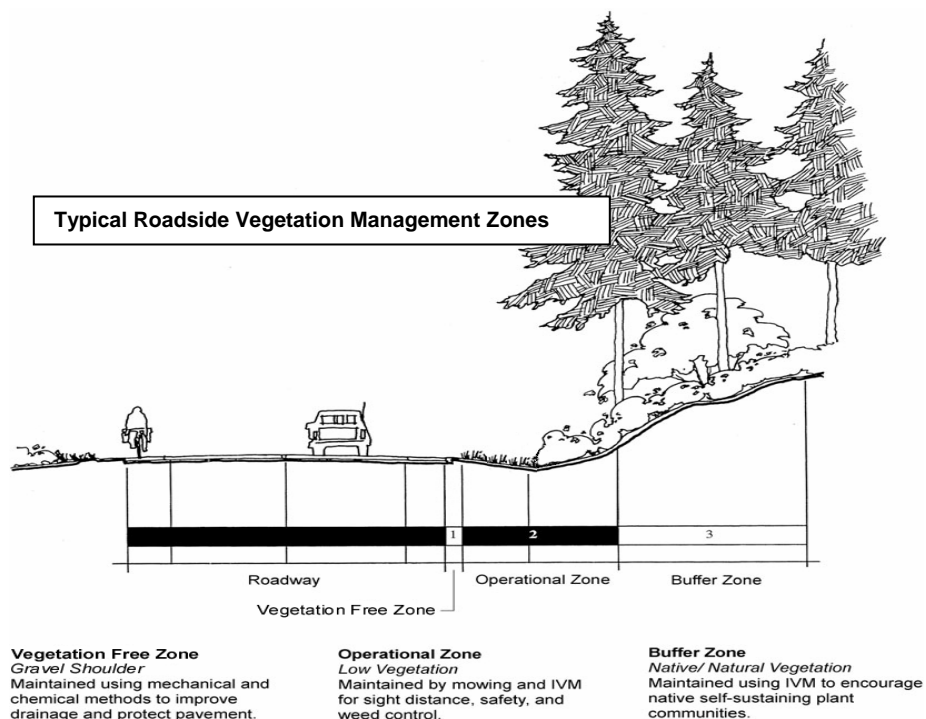
Beyond aesthetic values, roadside vegetation will also be placed to:

- Prevent soil erosion
- Enhance water quality
- Stabilize slopes

Methods to accomplish these will be explained further throughout this section of the plan.

Roadside vegetation management

WSDOT has created a management plan that provides detailed information and policies regarding planned routine maintenance practices, reoccurring weed infestations, management of sensitive areas and other areas requiring special management consideration. This information is included in the WSDOT NW Region, Area 1 Integrated Roadside Vegetation Management Plan dated 12/2006 and its updates and will be utilized in the vegetation management along this corridor. It is attached as **Appendix 7**.



Excerpt from the WSDOT NW Region Area 1, Vegetative Management Plan



Planting guidelines

When restoring road slopes, unwanted turnouts and other disturbed areas, the goals are to control erosion and re-establish low-maintenance, non-invasive vegetation compatible with nearby undisturbed native plant communities and to not present undue hazards to motorists. Some specific ways of achieving these goals are as follows:

Slope preparation. The graded surface of disturbed areas should have a natural appearance. If possible, existing topsoils should be salvaged and replaced. In some locations it may be more feasible to amend disturbed areas with compost and place a layer of rough compost on the ground surface to emulate forest floor conditions and support improve wildlife habitat, and accelerate the re-establishment of native forest-edge species.

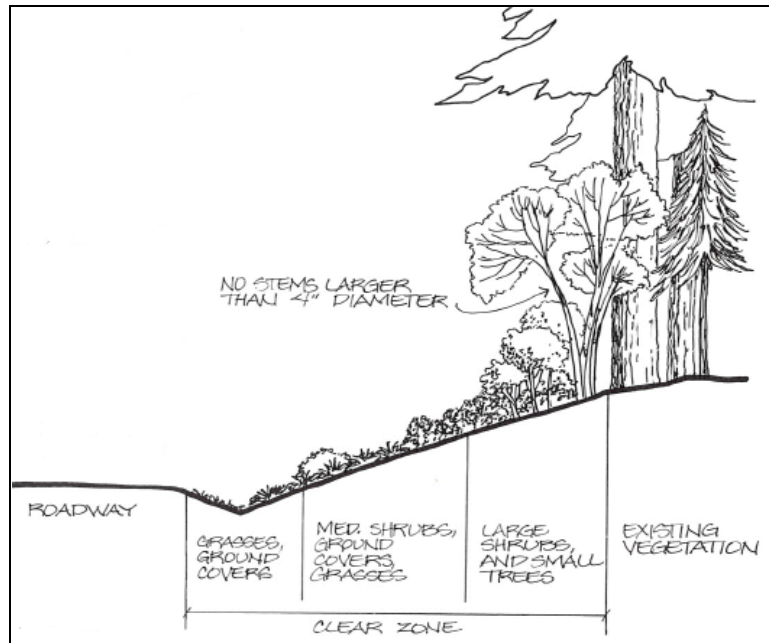
Plant materials. Indigenous plant materials should be used whenever possible. The USFS has approved a seed mix that is used for erosion control on large open slopes and in disturbed areas near the roadway to prevent establishment of noxious weeds.

Select species that are appropriate to the environmental conditions at the planting site. If road construction creates a large open slope, plant mostly sun-tolerant early to mid-successional species. Later successional, forest-edge species can be used where there is part shade near undisturbed forest (e.g., in restoring an unwanted turnout in lowland forest). The success of forest-edge species is often enhanced by the application of native duff, litter and woody debris.

At the annual meeting WSDOT will identify areas that will be disturbed in the development of capital projects or extensive maintenance projects along the corridor. If the USFS desires they can identify and salvage, at their cost, plants in the potentially disturbed areas for their own use.

Planting design

Planting design should imitate the patterns of naturally occurring plant communities. Planting in clusters or with random spacing rather than straight rows is recommended. Abrupt edges between undisturbed natural vegetation and cut slopes should be softened by using undulating clearing limits. Planting various different-sized shrubs and adding native forbs can also break up the abrupt transition between forest and bare or grassy slopes. Low mat-forming shrubs or grasses should be used within about 10 feet of the road edge. The graphic below identifies the areas needed to protect the clear zone and appropriate plantings that will accomplish that goal.



This practice will help maintain good sight distances. Grasses may inhibit establishment of woody shrubs (e.g. alder) next to the road, the visual impacts of mowing are less noticeable if there is a ground cover of low mat-forming shrubs (e.g. salal) or forbs (e.g., coltsfoot).

To achieve variation in plant height while minimizing safety hazards in the clear zone, plant several types of multistemmed shrubs or small trees that can be pruned to a multistemmed form (e.g., vine maple).

Roadside vegetation along the corridor

SR 542 navigates through a tremendous variety of natural resources. More than 300 plant species exist in the Mt. Baker Area. They are primarily found in the dominant habitat-forests.

More than 90 percent of the land is occupied by mixed coniferous deciduous forests. These forests are in either second or third growth following the forestry boom of the 1800s and 1900s and are primarily made up of western hemlock, (*Tsuga heterophylla*), western red cedar (*Thuja plicata*) and Douglas fir (*Pseudotsuga menziesii*) in the lower elevations and Silver fir (*Abies amabilis*), mountain hemlock (*Tsuga mertensiana*) and Douglas fir. Also common are grand fir and Sitka spruce.

Understory trees are primarily vine maple (*Acer circinatum*), Pacific dogwood (*Cornus nuttallii*) and western yew (*Taxus brevifolia*). Typical shrubs and herbaceous plants associated with the coniferous forests include Oregon grape (*Mahonia aquifolium*), salal (*Gaultheria shallon*), sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilinum*), huckleberries (*Vaccinium* spp) and rhododendron (*Rhododendron*), at higher elevations).



The deciduous components of these forests include species such as red alder (*Alnus rubra*), black cottonwood (*Populus balsamifera*), Pacific dogwood, willow (*Salix* spp) and bigleaf maple (*Acer macrophyllum*). Red alder dominates as a pioneer species on landscapes disturbed by logging, burns or other clearing activities. Birches (*Betula* spp), willows and cottonwoods grow beside streams and in low moist areas. These trees provide riparian zones with stream-bank stabilization, preventing flooding and helping to reduce runoff and erosion, minimizing damage to the roadway and protecting fish habitat.

Shrubs commonly associated with this deciduous and mixed coniferous deciduous forests include wild rose (*Rosa*), ocean spray (*Holodiscus discolor*), red elderberry (*Sambucus racemosa*), salmonberry (*Rubus spectabilis*) thimbleberry (*Rubus parviflorus*), wild gooseberry (*Ribes*), chokecherry (*Prunus virginiana*) and hazelnut (*Corylus cornuta*). Typical herbaceous plants include lady fern (*Athyrium filix-femina*), skunk cabbage (*Lysichitum americanum*) and devil's club (*Oplopanax horridus*) in wet swampy areas and deer fern (*Blechnum spicant*), twisted stalk (*Streptopus* spp), trillium (*Trillium ovatum*), false Solomon's seal (*Smilacina racemosa*), stinging nettle (*Urtica dioica*) and buttercup (*Ranunculus*) in moderately moist areas.

This area is also well known for its mycological diversity and is a hunting ground for avid mushroomers. (*Credit to Whatcom County Planning Department- Foothills Sub area Plan*)

The type and extent of vegetation will vary depending on the location along the corridor.

Vegetation management

USFS and WSDOT will coordinate the use of chemical application or other vegetation management activities.

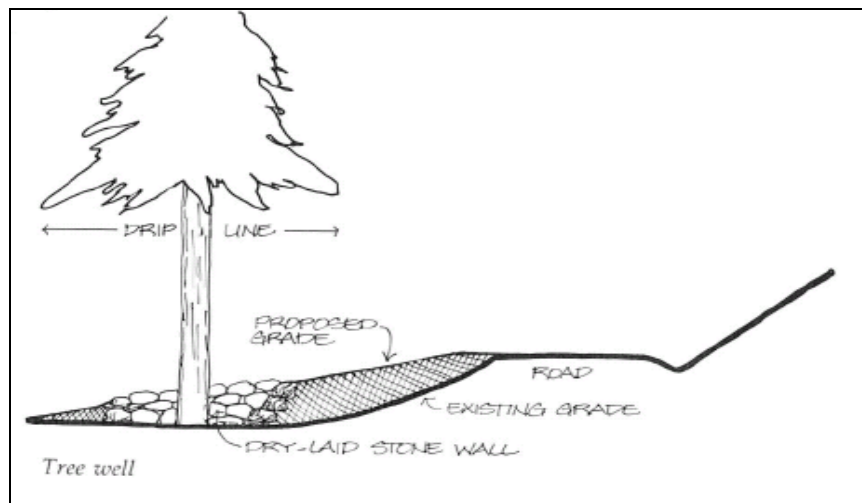
The following is a summary of USFS policies and guidelines for vegetative management:

1. Native Vegetation Management will be guided by the USFS most current issue of "A Guide to Conducting Vegetation Management Projects in the Pacific Northwest Region".
2. Invasive Plant Management will be guided by the applicable standards contained within USFS "Preventing and Managing Invasive Plants Record of Decision", October 2005.
 - a. In this decision, standards 3, 7 and 8 apply to road maintenance activities.
 - b. This decision emphasizes the use erosion control grasses approved by the USFS.
 - c. Standard 7 of this decision can be met by using USFS, WSDOT, or county weed specialists to review material sources before integrating materials into the road.
 - d. Standard 8 of this decision can be met by local weed specialists at USFS, WSDOT, or County Noxious Weed Control Board, consulting with WSDOT road maintenance managers on location of invasive plant populations and appropriate timing of brushing and ditch cleaning operations.

Tree protection

The forest contains many trees along the roadway. Some of these are in excellent health and augment the visual character of the corridor; others have been damaged or are weak and cause safety hazards along the roadway. Within the easement, implementing tree preservation is the goal and it has been agreed that tree removal will only occur if it poses a hazard to the roadway. (See maintenance appendix 14). The scenic value of the corridor is enhanced by large trees and every effort will be made to preserve them when possible. All conifers 50 years and older (i.e., 18dbh and larger) are candidates for preservation. Each tree that meets this criterion will be evaluated individually. Four methods are proposed for protecting them: sensitive road alignment, tree wells in fills, shortening fills with toe wall and guardrails. The Region Landscape Architect and State Horticulturist are WSDOT resources that should be used to evaluate trees and determine best methods for protection and preservation.

- **Preservation.** The most effective method of preserving large trees is a sensitively designed road alignment that avoids these important resources whenever possible.
- **Root zone protection.** Ideally, the root zone of vegetation is protected out to 1.5 times the diameter of the drip line. At a minimum, protect the root zone to the outermost research of its branches (the drip line). If cuts or fills are required in the vicinity of the trees to be saved, consider retaining walls, tree wells, gravel, or drainage systems to protect the root systems.



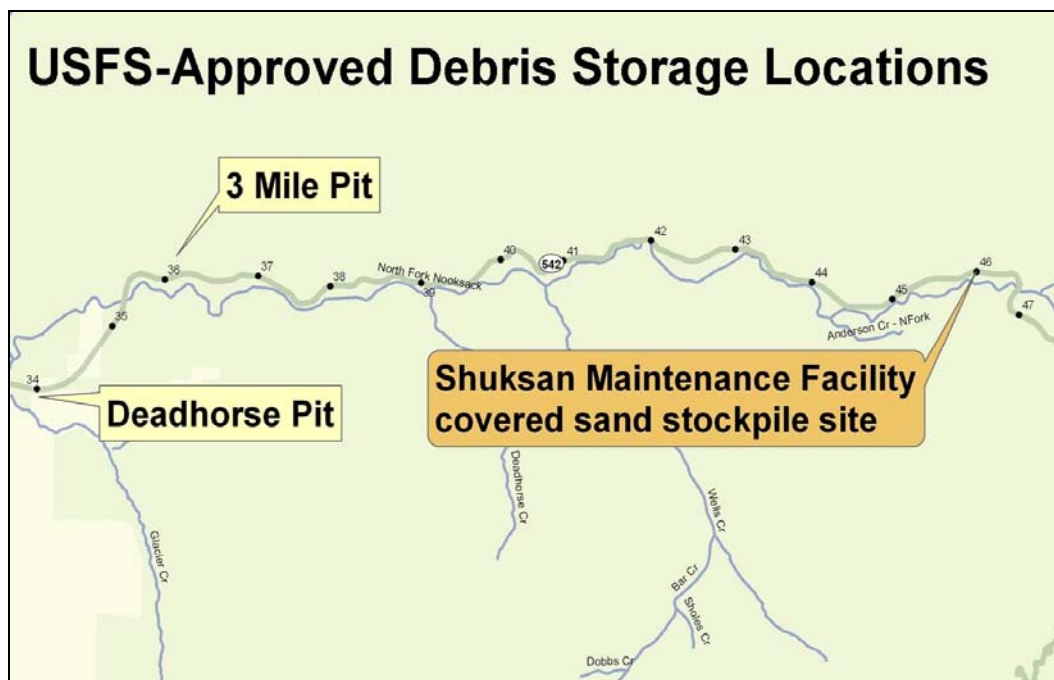
- **Toe wall.** If several large trees are found within 10 feet from the end of a fill, construction of a toe wall should be considered to save the trees. Toe walls can be constructed of various materials: dry laid stone, reinforced concrete and concrete with stone facing. In areas well hidden from public view, gabions would be acceptable. Dry-laid stone is preferable because there is no need for foundation digging that may damage root systems.



- **Vehicle free zone.** Care should be taken to avoid damaging trees during construction or maintenance activities. The common practice of driving or parking construction equipment under large trees is prohibited. The resulting soil compaction and root damage can be as destructive to the tree as the effects of filling around it.
- **Guardrail.** Barricade or fences should be used in sensitive areas to help minimize this type of damage. Where appropriate, guardrails should be used to protect large healthy trees close to the road. These protect both trees and motorists from direct impact.

Clogged watercourses and structures

Watercourse and structures clogged by excessive brush, debris or sedimentation must be cleared to provide drainage. Clear and/or clean associated interceptor drains. This may require digging out channels by hand or with equipment to minimize disturbance to adjacent vegetation. Clear only the necessary minimum amount of vegetation. Side casting may be permitted after review and approval by the Forest Service. All other debris shall be hauled to approved staging areas.



**In an emergency, to enable road reopening, scenic vista sites maybe used as temporary stockpile sites. Debris will be removed from these locations as soon as equipment can be mobilized to take it an appropriately designed area.



Noxious weed control

Preventing the introduction and spread of noxious weeds is one objective of the Integrated Vegetative Management Plan for SR 542. “Noxious Weeds” are defined by the USFS as “plants designated as noxious weeds by the Secretary of Agriculture or by the responsible State official. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects....” (FSM 2080.5)



Knap weed

Noxious weeds are non-native plants that have been introduced to Washington from other parts of the world. Because of their aggressive growth and lack of natural enemies in the state, these species can be highly destructive, competitive, or difficult to control. Non-native plants grow particularly well along SR 542 in areas where native trees and shrubs are cleared and the soil is disturbed, gravelly or well drained.

Noxious Weed Prevention and Control is a coordinated effort with WSDOT, Whatcom County Noxious Weed Control Board and the USFS to address planned prevention and control measures, type and amounts of chemical treatment if any, timing of activities, area



Tansy Ragwort

to be treated and monitoring of results. As guidance we use the Washington State Noxious Weed list to identify guidance for appropriate treatment. WSDOT will annually report progress to the Forest Supervisor. The control of noxious weeds requires ongoing prevention practices and strategy.

Whatcom noxious weed control board

The authority on locally present noxious weeds is the Whatcom County Noxious Weed Control Board. They have identified Noxious Weeds along the SR 542 Corridor and have been working with the USFS to control these. Included in the appendix is the 2008 Whatcom County Noxious Weed Control List, which shows the designations and class of noxious weeds, identified in Whatcom County.

<http://www.co.whatcom.wa.us/publicworks/weeds/index.jsp>

On-going coordination

Teamwork is needed to work toward the control of noxious weeds. WSDOT, the USFS and the Whatcom County Noxious Weed Control Board coordinate each year regarding the need for manual removal, mowing and herbicide applications. This coordination needs to continue in the future. It will be WSDOT's policy to not mow known areas with “Class A” noxious weeds before consulting with the USFS, so hand pulling can be accommodated. Below is a map showing the areas where noxious weeds have been identified along the corridor by the Whatcom Noxious Weed Control Board and have had active involvement by the USFS to work toward the removal of these species.



SR 542 scenic byway noxious weed control: goals and strategies:

Goal: Control the introduction and spread of weeds caused by moving infested sand, gravel, borrow, and fill material in the Forest. **Strategy:** Use materials that are certified weed free.

Goal: Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds. **Strategy:** Work with Whatcom County (on-going) or WSDOT biologists and landscape architects (during design and construction phases) to identify areas of noxious weed infestation and provide appropriate removal.

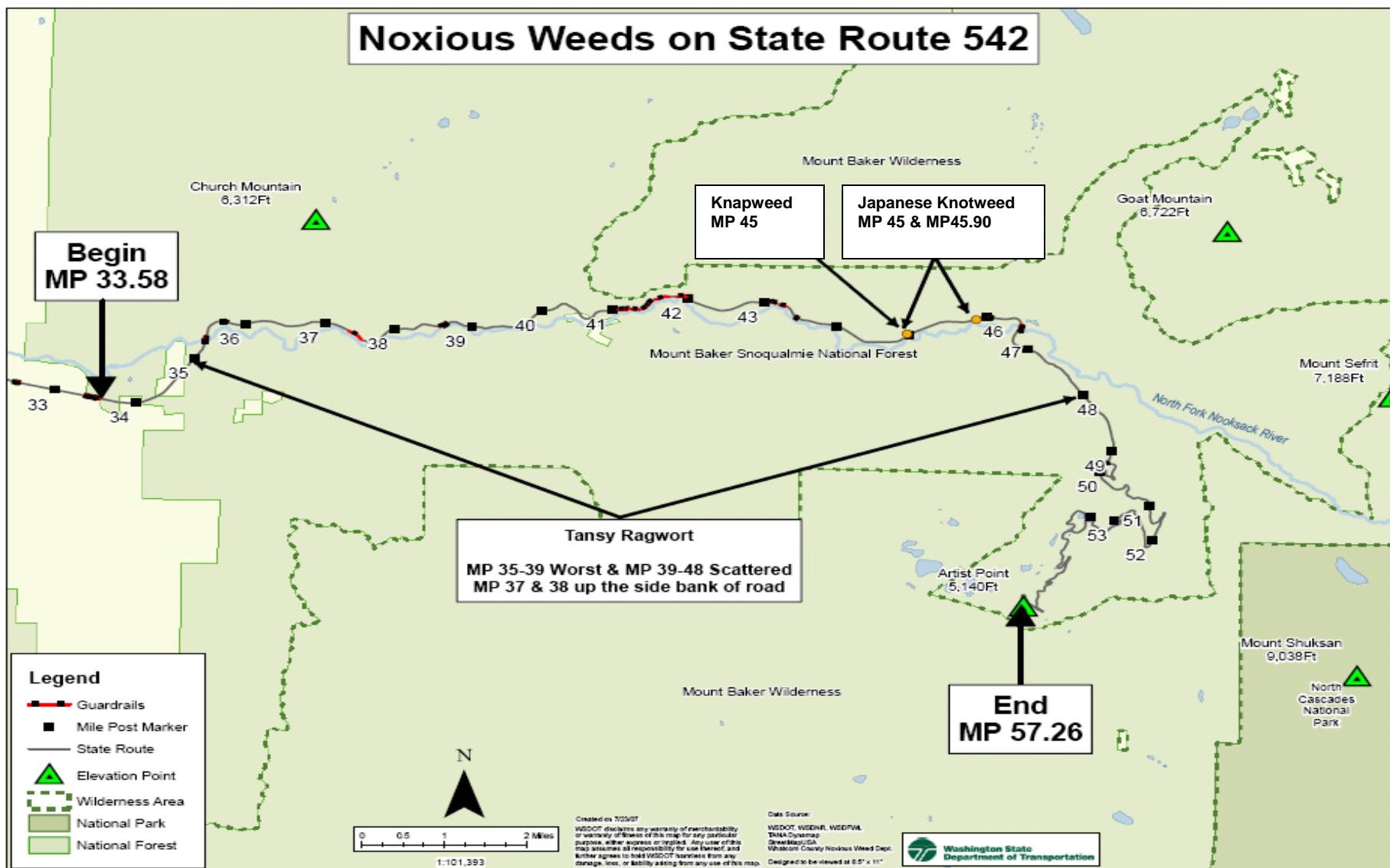
Goal: Prevent the introduction and spread of weeds caused by moving infested sand, gravel, borrow, and fill material in Forest Service, contractor and cooperator operations.

Strategy: Incorporate Weed Prevention and control into project layout, alternative evaluation, and project decisions. WSDOT specifies weed control prior to disturbance if appropriate. WSDOT and the Forest Service have agreed to prescriptive measures to manage weed removal with approved herbicides. The Herbicide Fact sheets included in Appendix 8, show both State and County guidance for the areas to be managed.

Goal: Work with Whatcom County, the Forest Service, WSDOT and other groups to provide early detection and control. **Strategy:** Determine prevention and maintenance needs to include the use of herbicides, if needed, at the onset of project planning. Coordinate project activities with any nearby herbicide application to maximize cost effectiveness of weed treatment.

Goal: Where project disturbance creates bare ground, consistent with project objectives, reestablish vegetation to create conditions that compete with weeds.

Strategy: When WSDOT establishes new roadside plantings, select plants that will compete well with noxious weeds. We also improve the soil with organics, such as weed-free compost, to create more favorable conditions for desirable vegetation.



Map 10: SR 542 Noxious Weed locations identified by Whatcom Noxious Weed Control Board



Below is the best management practices prescribed by the USFS. These will be incorporated into all noxious weed control planning as available.

Noxious weed prevention and treatment best management practices	
Exhibit B of 2004 Easement	
Management Requirement	Management Practices (These should be followed unless the intent of the first column can be met with an alternate method that better meets the management requirement)
Avoid spread of weeds during road decommissioning or construction activities.	<ol style="list-style-type: none">1) In decommissioning projects, existing infestations should be treated before the road is made undrivable.2) If weeds are present in project areas, all equipment and gear should be cleaned (power wash or high pressure cleaning) before leaving area to avoid spreading the infestation further.3) Use only weed-free plant materials for revegetation.4) Use only weed-free straw, erosion control mats, or other weed-free mulch.5) For new construction minimize clearing limit widths.
Avoid Spread of weeds during road maintenance activities. <i>This is not meant to apply to surface vehicles or equipment doing work within the limits of the road surface, <u>or</u> and work in non-infested areas.</i>	<ol style="list-style-type: none">1) For areas beyond the road surface, existing infestations should be treated before the maintenance activity occurs.2) If weeds are present in project areas, all equipment and gear should be cleaned (power wash or high pressure cleaning) before leaving area to avoid spreading the infestation further.3) Within small infested areas, consider using alternate methods to accomplish maintenance work (e.g. cleaning hand tools for small sites will be more efficient and cheaper than cleaning large equipment).4) When feasible, work from relatively weed-free areas into the infested areas rather than vice-versa.5) When feasible, do not maintain ditches when noxious weeds are in the flowering or seed stage.6) Do not maintain ditches or mow shoulders within 2 weeks before or after herbicide application - this will minimize herbicide use and increase effectiveness.7) Road maintenance programs should include monitoring for noxious weeds. Infestations should be inventoried and scheduled for treatment.



Avoid spreading weeds via use of infested materials.	<p>1) On the MBSNF, all gravel, fill, winter sanding, stockpiles, quarries and borrow material should be inspected, treated if necessary and ensured that it is weed free before transport and use. These areas should be designated as “zero tolerance” zones.</p> <p>2) All seed purchased or otherwise designated or accepted for the Mt. Baker-Snoqualmie National Forest will be required to be tested for “all states noxious weeds” according to Association of Official Seed Analysts (AOSA) standards. It also will be certified in writing by the Registered Seed Technologist and Seed Analyst as meeting the requirement of the Federal Seed Act and State Seed Act and State Seed law for Washington regarding the testing, labeling, sale and transport of prohibited and restricted noxious weeds.</p> <p>3) Do not draw water (e.g. for dust abatement) from known weed infested water sources.</p>
Limit transport of weed seeds onto the MBS National Forest.	<p>1) Specify clearing of heavy equipment entering the MBSNF that is contracted for work outside the limits of the road surface. Equipment should be free of all dirt, mud and plant parts.</p>
Incorporate weed prevention in Access and Travel Management Planning.	<p>1) During transportation planning and alternative development, consider weed risk factors (presence, habitat type, aspect, etc.) to evaluate road location and design.</p> <p>2) EAs for road construction must consider weed risk in development of alternatives and mitigating measures.</p>
Retain shade to suppress weeds.	<p>1) Minimize the removal of trees and other roadside vegetation, particularly on southern aspects.</p> <p>2) Where shoulders or ditches are covered by desirable vegetation, consider leaving it in place rather than blading it off if such a practice can be done without causing excessive damage to the road surface or public safety hazards.</p>
Re-establish desirable vegetation on all bare ground to minimize weed establishment or spread.	<p>1) Seed all exposed soil (except travelway) before soil crusting or otherwise treat in a manner that optimizes establishment of desirable species.</p> <p>2) Monitor all seeded sites and spot re-seed as needed. Preferably use native, pioneer species because they require fewer nutrients and less fertilizer.</p> <p>3) If using fertilizer, do so only after desirable vegetation has become established, to help the desired species maintain a competitive advantage over the weeds.</p>
Ensure quick re-establishment of desirable vegetation to discourage weeds.	<p>1) Require that all bare soil resulting from projects be re-seeded, planted, and/or mulched promptly after clearing.</p> <p>2) Use only weed-free plant materials, straw, or mulch for revegetation and restoration projects.</p>



The easement, as summarized above, specifies some measures that have not been developed in Washington State; such as certified weed free sand, and power washing of maintenance vehicles on site. WSDOT will take all available precautions to help control the spreading of noxious weeds, but some of these are not possible at this time. WSDOT shall annually coordinate the vegetation management along the right-of-way. Clearing by means of chemicals will be done per approved herbicides specified in this plan, or by amendment by the forest service. Consultation must address the time, method, chemicals and exact portion of the right-of-way to be chemically treated. Below is a link to WSDOT policy on Herbicide Use. Measures to prevent infestations of weeds within the easement areas should be in accordance with Best Management Practices. EPA approved procedures will be used.

WSDOT's policy on herbicide use

Herbicides are efficient and effective tools for vegetation management and weed control. WSDOT uses herbicides two ways:

- to maintain a vegetation-free strip at the edge of the pavement where necessary
- to selectively control and eliminate undesirable plants

For herbicides used to control weeds and other unwanted plants, WSDOT follows a process that helps ensure herbicides are used appropriately and only when necessary in combination with other effective control measures. The ultimate goal in any treatment is to replace unwanted vegetation with appropriate native plants. In many cases herbicides are an effective tool for initial control of a problem. When combined with other control measures, herbicide use can be minimized or eliminated over time.

Link to WSDOT's current policy on herbicide use:

http://www.wsdot.wa.gov/maintenance/vegetation/herbicide_use.htm

WSDOT policy for approval and use of any new herbicide products

Any new herbicides or formulations of existing herbicides that become available and have potential for use in roadside vegetation management will be screened, evaluated and approved based on the following procedures:

All new pesticide products that may be used for roadside vegetation management by the Washington State Department of Transportation will be formally evaluated for environmental and human health impacts prior to addition to the statewide contract and use on WSDOT rights of way. No pesticide products will be used on WSDOT right-of-way without approval through the process. As technology changes and new products and procedures are developed, it is anticipated that updated applications will be suggested at the annual meeting, with the understanding it will be reviewed by the USFS for final approval.

Full documentation of WSDOT Herbicide use analysis and risk assessment is also available: 1993 - Roadside Vegetation Management EIS, Appendix B.

http://www.wsdot.wa.gov/maintenance/pdf/Roadside_Vegetation_Management-Feb_1993_Appendix_B.pdf



Herbicides approved for use within the National Forest

USFS recommendation: The MB-S National Forest currently uses the following herbicides on the following weeds:

All composite (thistles, hawkweeds, common tansy, tansy ragwort) - clopyralid or aquatic glyphosate

Blackberries- glyphosate

Knotweeds- combination of imazapyr and aquatic glyphosate

Scotchbroom – aquatic glyphosate

Herb Robert- aquatic glyphosate

Wild carrot- aquatic glyphosate

Yellow archangel- aquatic glyphosate

Comments on the latest (January 2009) draft of the SR 542 Scenic Byway Plan, Vegetation Management section. This information was requested at the January 13th meeting with DOT.

The MB-S National Forest currently uses the following herbicides on the following weeds:

All composites (thistles, hawkweeds, common tansy, tansy ragwort) – clopyralid or aquatic glyphosate

Blackberries – glyphosate

Knotweeds – combination of imazapyr and aquatic glyphosate

Scotchbroom – aquatic glyphosate

Herb robert – aquatic glyphosate

Wild carrot – aquatic glyphosate

Yellow archangel – aquatic glyphosate

Ann Risvold
North Zone Botanist
January 21, 2009

* The herbicides highlighted are approved for Forest Service use



Washington State Department of Transportation

Technical Appendix 9- Approved Herbicide information and website link

Appendix of Herbicides approved for use with links to website fact sheets.

- 2,4-D <http://www.wsdot.wa.gov/maintenance/pdf/2,4-D.pdf>
 - Aminopyralid <http://www.wsdot.wa.gov/maintenance/pdf/Aminopyralid.pdf>
 - Bromacil <http://www.wsdot.wa.gov/maintenance/pdf/bromacil.pdf>
 - Bromoxynil <http://www.wsdot.wa.gov/maintenance/pdf/Bromoxynil.pdf>
 - * Chlorsulfuron <http://www.wsdot.wa.gov/maintenance/pdf/chlorsulfuron.pdf>
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 - Tebuthiuron <http://www.wsdot.wa.gov/maintenance/pdf/Tebuthiuron.pdf>
 - * Triclopyr <http://www.wsdot.wa.gov/maintenance/pdf/triclopyr.pdf>
- Full documentation of WSDOT Herbicide use analysis and risk assessment is also available: 1993 - Roadside Vegetation Management EIS, Appendix B.
http://www.wsdot.wa.gov/maintenance/pdf/Roadside_Vegetation_Management-Feb_1993_Appendix_B.pdf

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